urochemical Research – Volume 10, 1985

ochemical Research is devoted to the rapid publication of studies which use neurochemical methodology in rch of the nervous system. The journal serves as a bridge between neurochemistry and all other fields of ance in an effort to expand our understanding of the functions of the nervous system.

TOR-IN-CHIEF

Lajtha, Center for Neurochemistry, Ward's Island, New York

OCIATE EDITORS

han Bass, University of Kentucky, Lexington, Kentucky
ge Hashim, St. Luke's Hospital Center, New York, New York

TORS

G. Ansell, University of Birmingham Medical School, Birmingham, United Kingdom
ence Austin, Monash University, Clayton Victoria, Australia
tino Battistin, Universita di Padova, Padova, Italy
e A. Baumann, Hopital de la Salpètrière, Paris, France
Blass, Cornell University, New York, New York
Brzin, Institute of Pathophysiology, Ljubljana, Yugoslavia
io Carvalho, University of Coimbra, Coimbra, Portugal
nio Costa, St. Elizabeth's Hospital-WAW, Washington, D.C.
de Vellis, University of California, Los Angeles, California
D. Drujan, Instituto Venezolano de Investigaciones Científicas, Caracas, Venezuela
H. Ehrlich, University of Vermont, Burlington, Vermont
en Galoyan, Institute of Biochemistry, Armenian Academy of Science, Yerevan, USSR
on Gatt, Hebrew University-Hadassah Medical School, Jerusalem, Israel
Giacobini, Southern Illinois University, Springfield, Illinois
nio Giuditta, International Institute of Genetics and Biophysics, Naples, Italy
Maria Giuffrida, University of Catania, Catania, Italy
ago Grisolía, Instituto de Investigaciones Citológicas, Valencia, Spain
rs Hamberger, University of Göteborg, Göteborg, Sweden
el Hamon, INSERM Unit 288, Paris, France
am A. R. Johnston, University of Sydney, Sydney, Australia
Kuriyama, Kyoto Prefectural University of Medicine, Kyoto, Japan
g Kvamme, Oslo University, Oslo, Norway
D. Lane, Texas College of Osteopathic Medicine, Fort Worth, Texas
rd M. Lehrer, Mt. Sinai School of Medicine, New York, New York
o Levi, Laboratory of Cell Biology, CNR, Rome, Italy
ck L. McGeer, University of British Columbia, Vancouver, British Columbia
er Neuhoff, Max-Planck-Institut fur Experimentelle Medizin, Göttingen, West Germany
R. Perez-Polo, University of Texas, Galveston, Texas
izio Raiteri, University of Genoa, Genoa, Italy
y Roberts, UCLA School of Medicine, Los Angeles, California
rt Rush, Flinders University, Bedford Park, South Australia
aus Seiler, Centre de Recherche Merrell, Strasbourg, France
Siesjö, University of Lund, Lund, Sweden
on E. Smith, Veterans Hospital, Palo Alto, California
niko Suzuki, Albert Einstein College of Medicine, Bronx, New York
slav Tucek, Czechoslovak Academy of Sciences, Praha, Czechoslovakia
. van Gelder, University of Montreal, Montreal, Quebec
Vincendon, Centre de Neurochimie du CNRS, Strasbourg, France
ster Vizi, Institute of Experimental Medicine, Hungarian Academy, Budapest, Hungary
le Wasterlain, University of California, Los Angeles, California
Wollemann, Biological Research Center, Hungarian Academy, Szeged, Hungary
Zomzely-Neurath, Office of Naval Research, London, England

ochemical Research is published monthly by Plenum Publishing Corporation, 233 Spring Street, New N.Y. 10013. Subscription orders should be addressed to the publisher. *Neurochemical Research* is icted or indexed in Beck Medical Information, Biological Abstracts, Chemical Abstracts, Current Con- Excerpta Medica, Index Medicus, Referativnyi Zhurnal, and Science Citation Index. © 1985 Plenum shing Corporation. *Neurochemical Research* participates in the Copyright Clearance Center (CCC) Trans- al Reporting Service. The appearance of a code line at the bottom of the first page of an article in this jour- dicates the copyright owner's consent that copies of the article may be made for personal or internal use. ver, this consent is given on the condition that the copier pay the flat fee of $4.50 per copy per article (no onal per-page fees) directly to the Copyright Clearance Center, Inc., 27 Congress Street, Salem, chusetts 01970, for all copying not explicitly permitted by Sections 107 or 108 of the U.S. Copyright Law. CCC is a nonprofit clearinghouse for the payment of photocopying fees by libraries and other users ered with the CCC. Therefore, this consent does not extend to other kinds of copying, such as copying for l distribution, for advertising or promotional purposes, for creating new collective works, or for resale, the reprinting of figures, tables, and text excerpts. 0364-3190/85 $4.50

ription rates:
ume 10, 1985 (12 issues) $285.00 (outside U.S., $320.00).
ume 11, 1986 (12 issues) $320.00 (outside the U.S., $358.00).

d-class postage paid at New York, N.Y., and at additional mailing offices. Postmaster: Send address es to *Neurochemical Research,* Plenum Publishing Corporation, 233 Spring Street, New York, N.Y.

ed in the USA.

Neurochemical Research is published monthly by Plenum Publishing Corporation, 233 Spring Street, New York, N.Y. 10013. Subscription orders should be addressed to the publisher. *Neurochemical Research* is abstracted or indexed in Beck Medical Information, Biological Abstracts, Chemical Abstracts, Current Contents, Excerpta Medica, Index Medicus, Referativnyi Zhurnal, and Science Citation Index. © 1985 Plenum Publishing Corporation. *Neurochemical Research* participates in the Copyright Clearance Center (CCC) Transactional Reporting Service. The appearance of a code line at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use. However, this consent is given on the condition that the copier pay the flat fee of $4.50 per copy per article (no additional per-page fees) directly to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, Massachusetts 01970, for all copying not explicitly permitted by Sections 107 or 108 of the U.S. Copyright Law. The CCC is a nonprofit clearinghouse for the payment of photocopying fees by libraries and other users registered with the CCC. Therefore, this consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, nor to the reprinting of figures, tables, and text excerpts.
0364-3190/85 $4.50

Neurochemical Research

olume 10, Number 1 January 1985

CONTENTS

RIGINAL ARTICLES

ıman Brain Tubulin Purification: Decrease in Soluble Tubulin With Age 1
SAU-CHI B. YAN, SUTAEG HWANG, TIMOTHY D. RUSTAN, and WILLIAM H. FREY II

Reliable Method for Assessing Topographical Arrangement of Proteins in the Chromaffin Granule Membrane 19
SAM ZAREMBA and RUTH HOGUE-ANGELETTI

ffect of Hypothyroidism on the Labeling of the Various RNA Species in Developing Rat Brain 33
I. SERRA, M. RENIS, B. LOMBARDO, P. RAGONESE, R. AVOLA, and A. M. GIUFFRIDA

ntogenetic Development of Glutamate Metabolizing Enzymes in Cultured Cerebellar Granule Cells and in Cerebellum *In Vivo* 49
J. DREJER, O. M. LARSSSON, E. KVAMME, G. SVENNEBY, L. HERTZ, and A. SCHOUSBOE

ostnatal Ontogeny of Uridine Kinase in the Cerebellum, Hypothalamus, and Cerebral Cortex of the Rat 63
M. LITTERIA and C. G. POPOFF

pposing Interactions of Ionophores (Valinomycin and Monensin) on Calcium Ion Uptake in Rat Retinal Preparations 77
J. B. LOMBARDINI

corporation of [^{3}H]Thymidine Into DNA and of [^{35}S]Sulfate Into Sulfatides of Oligodendroglial Cells During Development: Effect of Malnutrition 89
JORGE N. LAROCCA, CARMEN SATO, LILIANA N. BERTI MATTERA, JUANA M. PASQUINI, and EDUARDO F. SOTO

ssociation of [^{14}C]Glutamate With the Protein Components of Synaptic Membrane Preparations 99
LEENA TURPEENOJA and PEKKA LÄHDESMÄKI

vidence for the Participation of Disulfide and Sulfhydril Groups in the Specific Binding of [^{3}H]Prazosin in Cerebral Cortex 107
TOMÁS A. READER and RICHARD BRIÈRE

elease of Preloaded Taurine and Hypotaurine From Astrocytes in Primary Culture: Stimulation by Calcium-Free Media 123
I. HOLOPAINEN, PIRJO KONTRO, and S. S. OJA

lature and Immature Synaptosomal Membranes Have a Different Lipid Composition 133
F. GREMO, G. E. DE MEDIO, G. TROVARELLI, S. DESSI, and S. PORRU

NNOUNCEMENTS 145

Neurochemical Research

Volume 10, Number 2 February 198

CONTENTS

ORIGINAL ARTICLES

Unidirectional Influx and Phosphorylation of Glucose Analogues in Cultured Astroblasts 14
Claus Nissen

Effect of Hypothyroidism on the Biogenesis of Free Mitochondria in the Cerebral Hemispheres and in Cerebellum of Rat During Postnatal Development 16
M. N. Gadaleta, M. Renis, G. R. Minervini, I. Serra, T. Bleve, A. Giovine, G. Zancheo, and A. M. Giuffrida

Neonatal Malnutrition in the Rat Affects the Delivery of Sulfatides From Microsomes and Their Entry Into Myelin 179
Carmen Sato, Jorge N. Larocca, Norma Bálsamo, Juana M. Pasquini, and Eduardo F. Soto

Glutamine Synthetase and Energy Metabolism Enzymes in Cultured Chick Glial Cells: Modulation by Dibutyryl Cyclic AMP, Hydrocortisone, and Trypsinization 191
G. Tholey, M. Ledig, S. Bloch, and P. Mandel

Evidence for the Cerebral Uptake In Vivo From Two Pools of Glucose and the Role of Glucose-6-Phosphatase in Removing Excess Substrate From Brain 201
William Sacks, David Cowburn, Rodney E. Bigler, Shirley Sacks, and Arthur Fleischer

Biochemical Studies on Rabbits With Aluminium Induced Neurofilament Accumulations 229
James Simpson, Celia M. Yates, David K. Whyler, Helen Wilson, Arthur J. Dewar, and Alexander Gordon

Isolation of Astrocytes, Neurons, and Synaptosomes of Rat Brain Cortex: Distribution of Enzymes of Glutamate Metabolism 239
G. Y. C. V. Subbalakshmi and Ch. R. K. Murthy

Electroacupuncture Alters Catecholamines in Brain Regions of Rats 251
Albert Y. Sun, Frances Boney, and Ding Z. Lee

Comparison of the Binding of Optically Pure (−)- and (+)-[^{3}H] Nicotine to Rat Brain Membranes 259
Leo G. Abood, Susan Grassi, and Helen D. Noggle

Use of Mitochondrial Inhibitors to Differentiate Kinetic Properties of the ATP-Dependent Ca^{2+} Uptake System in Synaptic Membranes 269
David H. Ross, Kennon M. Garrett, and H. Lee Cardenas

The Effects of Lubrol WX on Brain Membrane Ca^{2+}/Mg^{2+} ATPase and ATP-Dependent Ca^{2+} Uptake Activity Following Acute and Chronic Ethanol 283
D. H. Ross, K. M. Garrett, and H. L. Cardenas

Acute and Short Term Effects of Ethanol on the Metabolism of Glutamic Acid and GABA in Rat Brain 297
V. Ameeta Rani, H. A. Nadiger, Sara Rani Marcus, M. V. Chandrakala and B. Sadasivudu

Neurochemical Research

olume 10, Number 3 March 1985

CONTENTS

OMMENTS

easurement of Brain Histamine: A Reappraisal 307
Linda R. Hegstrand and R. Jean Hine

e Utility of Astroglia Cell Enriched Fraction From Rat Brain For Studying Cell Membrane Potentials: Changes Induced By Hepatogenic Encephalopathy 315
Zbigniew Dąbrowiecki and Jan Albrecht

RIGINAL ARTICLES

mparison of Release of Endogenous Dopamine and γ-Aminobutyric Acid From Rat Caudate Synaptosomes 319
W. Lowry Caudill, James C. Bigelow, and R. Mark Wightman

ripheral Enkephalin Hydrolysis in Different Animal Species: A Comparative Study 333
Francesca Venturelli, Gianna Roscetti, Roberta Possenti, Fabrizio Vita, and L. Giorgio Roda

ridoxal Phosphate-Unrelated Inhibition of Hippocampal Glutamic Acid Decarboxylase by Convulsant Pyridoxal Sulphate 343
Manuchair Ebadi, Alvin Earle, and Scott Wilt

e Effect of Temperature- and Oxygen-Acclimation on Phospholipids of Goldfish (*Carassius Auratus L.*) Brain Microsomes 355
Michael C. J. Chang and Betty I. Roots

ng-Chain Acyl CoA Synthetase in Microsomes From Rat Brain Gray Matter and White Matter 377
T. Sanjeeva Reddy and Nicolas G. Bazan

Hydroxybutyrate Uptake by Rat Brain Striatal Slices 387
V. Hechler, J. J. Bourguignon, C. G. Wermuth, P. Mandel, and M. Maitre

gional Lipid Peroxidation in Rat Brain In Vitro: Possible Role of Endogenous Iron 397
Malgorzata M. Zaleska and Robert A. Floyd

Serum Factor Cross-Reactive With Antibodies to a Determinant of Rabbit Encephaliotogenic Sequence 65–74 of Myelin Basic Protein 411
Eugene D. Day, George A. Hashim, Kenneth J. Lazarus, and Philip Y. Paterson

udies on the Turnover and Subcellular Localization of Membrane Gangliosides in Cultured Neuroblastoma Cells 427
J. T. R. Clarke, H. W. Cook, and M. W. Spence

Neurochemical Research

Volume 10, Number 4 **April 198**

CONTENTS

ORIGINAL ARTICLES

Distribution of Selected Phospholipid Modifying Enzymes in Rat Brain Microsomal Subfractions Prepared by Density Gradient Zonal Rotor Centrifugation 43
VINAY S. BANSAL, HIROSHI HATTORI, DANKA ORIHEL, AND JULIAN N. KANFER

Oxidative Metabolism and Acetylcholine Synthesis During Acetylpyridine Treatment 45
GARY E. GIBSON AND JOHN P. BLASS

Double Ligand ELISA Technique for the Estimation of Antibodies to Brain Tissue Antigens in Patients With Neurological Disorders 46
LIANE BOLOGA, WILLY HOFSTETTER, KATHARINA SCHONENBERGER, CLAUDE JACQUE, AND NORBERT HERSCHKOWITZ

Stimulation of Amino Acid Accumulation in Neuroblastoma and Astrocytoma Cells by L-Histidine 48
R. HANNUNIEMI, I. HALOPAINEN, E. R. KORPI, AND S. S. OJA

Effect of Chronic Haloperidol and Quinacrine Coadministration on Striatal HVA Levels and Stereotypic Behaviors in Response to Apomorphine in the Rat 49
STEPHEN I. DEUTSCH, RONNIE HALPERIN, MICHAEL STANLEY, AND KENNETH L. DAVIS

Generation and Characterization of Mouse Monoclonal Antibodies to the Myelin-Associated Glycoprotein (MAG) 49
MICHAEL J. DOBERSEN, JEFFREY A. HAMMER, ANTONIO B. NORONHA, TRACY D. MACINTOSH, BRUCE D. TRAPP, ROSCOE O. BRADY, AND RICHARD H. QUARLES

Release of Endogenous Dopamine, 3,4-Dihydroxyphenylacetic Acid, and Amino Acid Transmitters From Rat Striatal Slices 51
R. S. FLINT, J. M. MURPHY, AND W. J. MCBRIDE

Polyamine Reutilization and Turnover in Brain 52
NIKOLAUS SEILER AND FRANK N. BOLKENIUS

Substrate Requirements and Subcellular Distribution of Calcium Transport Activities in Brain Membranes 54
K. M. GARRETT AND D. H. ROSS

Phospholipids of Normal and Experimentally Injured Spinal Cord of the Miniature Pig 56
K. SEGLER-STAHL, P. DEMEDIUK, R. CASTILLO, C. WATTS, AND E. A. MOSCATELLI

Cerebellar Deoxyribonucleases and DNA in the Androgenized Female Rat 57
M. LITTERIA

Neurochemical Research

olume 10, Number 5 May 1985

CONTENTS

RIGINAL ARTICLES

ıtogenetic Studies on Tryptophan Transport Into Plasma Membrane Vesicles Derived From Rat Brain Synaptosomes: Effect of Thyroid Hormones 579
ELISA HERRERO, M. CARMEN ARAGON, JAVIER DIEZ-GUERRA, FERNANDO VALDIVIESO, and CECILIO GIMENEZ

e Uptake of Serotonin and Dopamine by Homogenates of Frozen Rat and Human Brain Tissue 591
ANDERS STENSTRÖM, LARS ORELAND, JOHN HARDY, PER WESTER, and BENGT WINBLAD

oducts of Cultured Neurological Cells: II. The Production of Fibronectin by C6 Glioma Cells 601
JANICE R. BALDWIN, PAUL E. MCKEEVER, and TOYA R. BOOKER

ıe Concentration of Dopamine, 5-Hydroxytryptamine, and Some of Their Acid Metabolites in the Brain of Genetically Diabetic Rats 611
R. P. S. KWOK, E. K. WALLS, and A. V. JUORIO

vestigations on Myelinogenesis In Vitro: A Study of the Critical Period at which Thyroid Hormone Exerts Its Maximum Regulatory Effect on the Developmental Expression of Two Myelin Associated Markers in Cultured Brain Cells From Embryonic Mice 617
GOURI SHANKER, SHASHI G. AMUR, and RONALD A. PIERINGER

ıaracterization of Rat Brain Opioid Receptors by [Tyr-3, 5-^{3}H][1], D-Ala[2], Leu[5]-Enkephalin Binding 627
SÁNDOR BENYHE, GÉZA TÓTH, JUDIT KEVEI, MÁRIA SZÜCS, ANNA BORSODI, KATALIN DI GLÉRIA, JUDIT SZÉCSI, HELGA SÜLI-VARGHA, and KÁLMÁN MEDZIHRADSZKY

ıle of the Serotonin Uptake Carrier in the Neurochemical Response to Methamphetamine: Effects of Citalopram and Chlorimipramine 637
CHRISTOPHER J. SCHMIDT and JAMES W. GIBB

ıtabolic Disturbances of Synaptosomes Isolated From Ischemic Gerbil Brain 649
K. DOMAŃSKA-JANIK, J. ŁAZAREWICZ, K. NOREMBERG, J. STROSZNAJDER, and T. ZALEWSKA

ansport of Monoamine and Amino Acid Neurotransmitters by Primary Astroglial Cultures 667
ELISABETH HANSSON

ıtabolism of Intracerebrally Injected Mevalonate in Brain of Suckling and Young Adult Rats 677
RONALD C. JOHNSON and SHANTILAL N. SHAH

ntification and Characterization of Pipecolic Acid Binding Sites in Mouse Brain 691
MARIA D. C. GUTIERREZ and EZIO GIACOBINI

utathione Peroxidase Activity in Surgical and Autopsied Human Brains 703
K. A. ANSARI, D. BIGELOW, and ELI KAPLAN

onuclease Activities in Rat Sympathetic Ganglia: Evidence for the Presence of an Endogenous Inhibitor of Alkaline Ribonuclease 713
D. J. BATES, R. T. GOOD, and L. AUSTIN

Neurochemical Research

Volume 10, Number 6 June 198

CONTENTS

ORIGINAL ARTICLES

Proteolytic Activity in Brains of Rabbits Treated With Aluminum 72
M. Benuck, K. Iqbal, H. M. Wisniewski, and A. Lajtha

Immunoblot Identification of Glial Fibrillary Acidic Protein in Rat Sciatic Nerve, Brain, and Spinal Cord During Development 73
Michael J. Noetzel and Harish C. Agrawal

Modulation of Specific [^{3}H]Phenytoin Binding by Benzodiazepines 75
Lawrence Spero

Cerebral Myelinogenesis in the *Snell* Dwarf Mouse: Stimulatory Effects of GH and T_4 Restricted to the First 20 Days of Postnatal Life 76
Tetsuro Sugisaki, Tetsuya Noguchi, and Yasuzo Tsukada

Synthesis of Thiamine Triphosphate in Rat Brain In Vivo 77
Heitaroh Iwata, Yasunori Yabushita, Tadashi Doi, and Toshio Matsuda

Lack of Effect of GABA on [^{3}H]Leucine Incorporation Into a Rat Oviduct Ribosomal System 78
Luis M. Orensanz, Carmen Azuara, and Inmaculada Fernández

Properties of Acetylcholinesterase and Non-Specific Cholinesterase in Rat Superior Cervical Ganglion and Plasma 79
Biba Klinar, Ljubica Kamarić, Janez Sketelj, and Miro Brzin

Further Characterization of [^{3}H]Flunitrazepam Binding Sites on Cultured Mouse Astroglia 80
M. Tardy, C. Fages, G. Dupre, M. F. Costa, J. Bardakdjian and B. Rolland

Effects of Short-Term and Prolonged Aerogenic Hypoxia on Gamma-Glutamyl Transpeptidase Activity in the Brain, Liver, and Biological Fluids of Young Rats 8
František Šťastný, Václav Lisý, Hana Tomášová, and Stanislav Trojan

Beta-Adrenergic ([^{3}H]CGP-12177) Binding to Brain Slices and Single Intact Pineal Glands 8
M. Wilkinson and Diane A. Wilkinson

Neurite-Promoting Factors From a Sympathetically Innervated Target Tissue 8
P. A. Wilson, M. Dortmans, and R. A. Rush

COMMENTS

Localization and Heterogeneity of Central Benzodiazepine Receptors 8
Eduardo De Robertis and Jorgge H. Medina

Isolation and Purification of Myelin Proteolipid Protein Using High Speed Gel Filtration in Sodium Dodecyl Sulfate 8
John L. Trotter and Cindy L. Wegescheide

Neurochemical Research

Volume 10, Number 7 July 1985

CONTENTS

ORIGINAL ARTICLES

Effect of Picrotoxinin on Benzodiazepine Receptor Binding 871
ANDREW Y. CHWEH, RAFAEL A. ULLOQUE, EWART A. SWINYARD, and HAROLD H. WOLF

Effect of Various Drugs Producing Convulsive Seizures on Rat Brain Glycerolipid Metabolism 879
LANFRANCO CORAZZI, GIAN LUIGI PICCININ, RITA ROBERTI, NDOK MARKU, LUCIANO BINAGLIA, GIUSEPPE PORCELLATI, and GIUSEPPE ARIENTI

Caffeine-Induced Changes in the Composition of the Free Amino Acid Pool of the Cerebral Cortex 887
MANUEL PORTOLÉS, MARÍA-DOLORES MIÑANA, ANTONIO JORDÁ, and SANTIAGO GRISOLÍA

Asynthesis and Insertion of Wolfgram Protein Into Optic Nerve Membranes 897
NORMAN J. KARIN and THOMAS V. WAEHNELDT

Evidence for an Increased Rate of Choline Efflux Across Erythrocyte Membranes in Alzheimer's Disease 909
D. ALLAN BUTTERFIELD, MAREN M. NICHOLAS, and WILLIAM R. MARKESBERY

Differential Expression of 2′:3′-Cyclic Nucleotide 3′-Phosphodiesterase in Cultured Central, Peripheral, and Extraneural Cells 919
TERRY JOE SPRINKLE, F. ARTHUR MCMORRIS, JUN YOSHINO, and GEORGE H. DEVRIES

Altered Central Monoamine Response to d-Amphetamine in Rats Chronically Exposed to Inorganic Lead 933
STEPHEN M. LASLEY, ROBERT D. GREENLAND, DANIEL J. MINNEMA, and I. ARTHUR MICHAELSON

Effects of Ketamine on the Dynorphin Levels and the Ethylketocyclazocine (EKC) Receptor Binding in Discrete Regions of Rat Brains 945
K. PONGDHANA, N. OGAWA, Y. HIROSE, S. OHARA, F. KOSAKA, and S. TACHIBANA

Glycine Ribonuclease Activity is Increased in Rat Sympathetic Ganglia After Nerve Injury 953
D. J. BATES, R. T. GOOD, and L. AUSTIN

Dopamine and Serotonin Metabolism in Striatum and in the Septohippocampal Pathway of the Snell Dwarft Mouse 969
ELIANE KEMPF, GUY FUHRMANN, GRAZIELLA THIRIET, and ALIX EBEL

Occurrence of Phenolsulfotransferase in Primary Glial Culture Cells of Rat 983
PETER H. YU and WOLFGANG WALZ

Developmental Change of Endogenous Glutamate and Gamma-Glutamyl Transferase in Cultured Cerebral Cortical Interneurons and Cerebellar Granule Cells, and in Mouse Cerebral Cortex and Cerebellum In Vivo 993
ELLING KVAMME, ARNE SCHOUSBOE, LEIF HERTZ, INGEBORG AA. TORGNER and GERD SVENNEBY

COMMENT

Improved Procedure for the Purification of an Iodinated Protein: Beta Nerve Growth Factor 1009
DAVID J. ENNULAT and ROBERT W. STACH

Neurochemical Research

Volume 10, Number 8 August 198

CONTENTS

SPECIAL ISSUE DEDICATED TO PROFESSOR YASUZO TSUKADA
Introduction 101

ORIGINAL ARTICLES
Inhibition of Polyphosphoinositide Phosphodiesterase by Aminoglycoside Antibiotics 101
Lucio A. A. Van Rooijen, and Bernard W. Agranoff

Potentiation of Na^+-Dependent Uptake of γ-Aminobutyric Acid in Mouse Brain Particles by Buffer-Mediated Proton Removal 102
Eugene Roberts, Zvi Liron, and Esther Wong

An Opiate Receptor-Associated Aminopeptidase That Degrades Enkephalins 104
Koon-Sea Hui, Theresa Gioannini, Maria Hui, Eric J. Simon, and Abel Lajtha

Properties of the Uptake and Release of Neurotransmitter Glutamate in Cerebral Cortical Tissue of Guinea Pigs 105
Genkichiro Takagaki and Hatsue Konagaya

Effects of Hyperphenylalaninemia in the Fetal Stage on the Postnatal Development of Fetal Rat Brain 107
Shusuke Hirano, Yoshio Takagi, Tomoyuki Kanamatsu, and Kenji Nakai

Passive Avoidance Training Increases Fucose Incorporation Into Glycoproteins in Chick Forebrain Slices In Vitro 108
Norah R. McCabe and Steven P. R. Rose

Microcephalic Cerebrum With Hypomyelination in the Growth Hormone-Deficient Mouse (*lit*) 109
Tetsuya Noguchi, Tetsuro Sugisaki, and Yasuzo Tsukada

Immunohistochemical Localization of 2′,3′-Cyclic Nucleotide 3′-Phosphodiesterase in Adult Bovine Cerebrum and Cerebellum 110
Yoshiko Nishizawa, Tadashi Kurihara, Toru Masuda, and Yasuo Takahashi

Photoaffinity Labeling of the Tetrodotoxin Binding Component of *Electrophorus Electricus* Electroplax 111
Seiji Uehara and Keiichi Uyemura

Disorders in Myelination in the *Twitcher* Mutant: Immunohistochemical and Biochemical Studies 112
Katsuhiko Mikoshiba, Masatoshi Fujishiro, Shinichi Kohsaka, Hideyuki Okano, Ken Takamatsu, and Yasuzo Tsukada

Changes in the Alpha-Adrenoceptors in the Medulla Oblongata Including Nucleus Tractus Solitarii of Spontaneously Hypertensive Rats 114
Masahiko Nomura, Masataka Ohtsuji, and Yutaka Nagata

Changes in the Levels of Neural Cell Specific Proteins in the Developing Rat Brain 115
T. Matsutani, M. Nagayoshi, M. Tamaru, Y. Hirata, and K. Kato

Stimulative Effect of Nerve Growth Factor on α-Aminoisobutyric Acid Uptake and Na,K-ATPase Activity in Superior Cervical Sympathetic Ganglia Excised From Adult Rats 11
Yutaka Nagata, Masato Ando, and Shinichiro Hori

Neurochemical Research

Volume 10, Number 9 September 1985

CONTENTS

ORIGINAL ARTICLES

Two Classes of Arginine Vasopressin Binding Sites on Rat Brain Membranes 1187
JEFFREY T. JUNIG, LEO G. ABOOD, and ANNE M. SKROBALA

Two-Dimensional Electrophoresis of Cerebrospinal Fluid Proteins in Normal and Pathological Conditions 1203
F. BRACCO, P. GALLO, B. TAVOLATO, and L. BATTISTIN

The Stokes Radius of the CHAPS-Solubilized Benzodiazepine Receptor Complex 1221
JAMES P. RAY, STEPHEN T. MERNOFF, LAKSHMI SANGAMESWARAN, and ANGEL L. DE BLAS

The Effect of Temperature- and Oxygen-Acclimation on Phospholipids of Goldfish (*Carassius auratus L.*) Brain Mitochondria 1231
MICHAEL C. J. CHANG and BETTY I. ROOTS

Partial Characterization of Histidine Decarboxylase in Hamster and Rat Brain Employing a New Method 1247
LINDA R. HEGSTRAND

The Effect of Iron on Mammalian Cortical Neurons in Culture 1261
KENNETH F. SWAIMAN and VALYNDA L. MACHEN

Effects of Piperine on Convulsions and on Brain Serotonin and Catecholamine Levels in El Mice 1269
AKITANE MORI, HIDEAKI KABUTO, and YIN-QUAN PEI

Expression of Heat Shock Genes in Fetal and Maternal Rabbit Brain 1277
IAN R. BROWN, DAVID G. LOWE, and LARRY A. MORAN

Levels of Sulfatide Synthesis Distinguish Oligodendroglia in Different Stages of Maturation 1285
S. E. PODUSLO and K. MILLER

Effects of Glycoprotein Synthesis Inhibitor on Myelination in Rat Cerebellum 1299
SHINICHI KOHSAKA, KOICHI MITA, HARUHIKO SUDA, MASAYUKI MATSUYAMA, and YASUZO TSUKADA

Effect of Ethanol on Adenosine Triphosphatase and Enolase Activities in Rat Brain and in Cultured Nerve Cells 1311
M. LEDIG, P. KOPP, and P. MANDEL

Neurochemical Research

Volume 10, Number 10 October 1985

CONTENTS

ORIGINAL ARTICLES

Partial Purification of γ-Glutamyltransferase From Human Brain Microvessels 1325
Jaroslav Veselý, Václav Lisý, and Miroslav Černoch

Amino Acid and Monoamine Transport in Primary Astroglial Cultures From Defined Brain Regions 1335
Elisabeth Hansson, Peter Eriksson, and Michael Nilsson

Metabolic Relationship Between Arachidonate Activation and Its Transfer to Lysophospholipids by Brain Microsomes 1343
Wilson Tang and Grace Y. Sun

Enkephalin Binding Systems in Human Plasma II: Leu-Enkephalin-Serum Albumin Interaction 1355
Valeria de Marco, Roberta Possenti, Fabrizio Vita, Bruna Rapposelli, Maria D'Alagni, and L. Giorgio Roda

Neurochemical Studies on Imprinting Behavior in Chick and Duckling 1371
Ken Takamatsu and Yasuzo Tsukada

Mechanisms of Leu-Enkephalin Hydrolysis in Human Plasma 1393
Gianna Roscetti, Roberta Possenti, Elisabetta Bassano, and L. Giorgio Roda

Transport of Pipecolic Acid in Adult and Developing Mouse Brain 1405
Jang Soo Kim and Ezio Giacobini

Activities of Thiamine-Dependent Enzymes in Two Experimental Models of Thiamine-Deficiency Encephalopathy: 1. The Pyruvate Dehydrogenase Complex 1417
Roger F. Butterworth, Jean-François Giguere, and Anne-Marie Besnard

Sodium Valproate and Brainstem Energetics 1429
D. W. McCandless and G. Looney

Neurochemical Research

olume 10, Number 11 November 1985

CONTENTS

ecial Issue Dedicated to Dr. Eugene Kreps
Foreword 1441

IGINAL ARTICLES

osphoethanolamine and Phosphocholine Transferases in Gray Matter and White Matter from Developing Rat Brain 1445
T. Sanjeeva Reddy and Lloyd A. Horrocks

e Fatty Acid Composition of Glycerolipids in Nerve, Brain, and Other Tissues of the Streptozotocin Diabetic Rat 1453
Chorng-Jly Lin, Richard Peterson, and Joseph Eichberg

gulation of Multiple Forms of Cyclic Nucleotide Phosphodiesterase From Bovine Hypothalamus: New Factors Modulating Enzyme Activity 1467
A. A. Galoyan and B. Ya. Gurvitz

sturbance of Lipid Composition in Spinal Cord of Rabbits With Experimental Allergic Encephalomyelitis 1483
N. P. Taranova

anges in Axonal Transport of Phospholipids in the Regenerating Goldfish Optic System 1499
M. Sbaschnig-Agler, R. W. Ledeen, R. M. Alpert, and B. Grafstein

me Properties of Human and Bovine Brain Cathepsin B 1511
Anahit Azaryan, Nina Barkhudaryan, and Armen Galoyan

tion of Brain Cathepsin B, Cathepsin D, and High-Molecular-Weight Aspartic Proteinase on Angiotensins I and II 1525
Anahit Azaryan, Nina Barkhudaryan, Armen Galoyan, and Abel Lajtha

oteolipids in Developing Rat Brain 1533
Karine H. Manukian and Laura G. Kirakosian

olutionary Approach to the Analysis of Structure and Function of Gangliosides 1547
N. F. Avrova

Neurochemical Research

Volume 10, Number 12 December 198

CONTENTS

ORIGINAL ARTICLES

An Ultramicro Bioluminescence Assay of Enolase: Application to Human Cerebrospinal Fluid 155
J. L. VIALLARD, M. R. V. MURTHY, and B. DASTUGUE

Glial Fibrillary Acidic Protein Alzheimer's Disease 156
S. SCOTT PANTER, JOHN D. MCSWIGAN, JOHN R. SHEPPARD, CAROLYN R. EMORY, and WILLIAM H. FREY, II

Acute and Short Term Effects of Ethanol on Membrane Enzymes in Rat Brain 157
P. AMEETA RAO, C. LALITHA KUMARI, and B. SADASIVUDU

Immunochemical Analysis of Lewis Rat Antisera to the Synthetic Encephalitogenic Peptide S49[1] 158
EUGENE D. DAY, GEORGE A. HASHIM, NICHOLAS T. POTTER, and KENNETH J. LAZARUS

Cortisol Effect on ($Na^+ + K^+$)-Stimulated ATPase Activity and on Bilayer Fluidity of Dog Brain Synaptosomal Plasma Membranes 160
GEORGE DELICONSTANTINOS

Age-Related Changes of Glucose Metabolism in Rat Cerebral Cortex With Reference to Glucose-Derived Amino Acids 161
HIROYUKI MATSUMOTO, MASAHARU ITO, SUSUMU KIKUCHI, and MASATO EDAMURA

Synaptosomal Degradation of Substance P and Some Other Neuropeptides 162
A. M. ARZUMANYAN, A. A. ARUTUNYAN, and T. N. AKOPYAN

Iron Uptake by Glial Cells 163
KENNETH F. SWAIMAN and VALYNDA L. MACHEN

Lipid Peroxidation Product and Antioxidant Proteins in Plasma and Cerebrospinal Fluid From Multiple Sclerosis Patients 164
M. I. S. HUNTER, B. C. NLEMADIM, and D. L. W. DAVIDSON

GABA-Transaminase and Glutamic Acid Decarboxylase Changes in the Brain of Rats Treated With Pyrithiamine 165
SHARLENE G. THOMPSON and EDITH G. MCGEER

Effects of Combined Administration of L-Tryptophan and Tricyclic Antidepressants on α_2- and β-Adrenoceptors and Monoamine Levels in Rat Brain 166
V. A. RUSSELL, M. C. L. LAMM, A. S. DE VILLIERS, J. J. F. TALJAARD, and D. O. CHALTON

GABA Uptake in Embryonic Palate Mesenchymal Cells of Two Mouse Strains 167
ELIZABETH L. WEE and ERNEST F. ZIMMERMAN

SUBJECT INDEX FOR NEUROCHEMICAL RESEARCH VOLUME 10, 1985 168

AUTHOR INDEX FOR NEUROCHEMICAL RESEARCH VOLUME 10, 1985 169

ANNOUNCEMENTS 169